ART. VI. ANOTHER NEW BOA OF THE GENUS EPICRATES FROM THE BAHAMAS

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In February, 1942, Dr. Arthur C. Twomey, Assistant Curator of Ornithology at the Carnegie Museum, spent a short period collecting birds in the northern Bahamas while the guest of Dr. Matthew T. Mellon aboard the latter's schooner, "Gerda II." Dr. Twomey, to whom we are indebted for many interesting specimens acquired during the course of his bird collecting forays, again returned with herpetological material. When we found that the collection of lizards and frogs also contained a small boid from Great Abaco, we were reminded of the recent statement of our good friend Dr. Thomas Barbour, "I do not know whether there is a fowl snake to be found on the Abacos or Grand Bahama. If so, it is not unlikely that this will prove to be another undescribed form" (1941. Proc. New England Zool. Club, 18: 62). Dr. Twomey's specimen proves that there is a fowl snake on Great Abaco, and study shows that it is an undescribed form. It would be a pleasure to associate Dr. Barbour's name with this novelty, in recognition of his astuteness as a prophet, were it not for the fact that we would be adding to the all too plentiful supply of homonyms by so doing.

Although the Carnegie Museum has a Bahamian collection of moderate size, acquired by gradual accretion since the first specimens were purchased from W. W. Worthington in 1909, very few snakes are included among the species represented. We sent our suspected novelty to Cambridge, therefore, and both Dr. Barbour and Mr. Arthur Loveridge were kind enough to examine it and confirm our surmise that it represents an undescribed form from these interesting islands, which are incompletely known herpetologically four and a half centuries after their discovery. For the new boa, we propose the name,

Epicrates exsul, new species

Type: Carnegie Museum, no. 21048, male, collected February 6, 1942, by Arthur C. Twomey.

Issued May 24, 1944.

Type locality: Near Blackrock (approximately 26° 49′ N. lat. and 77° 25′ 30″ W. long.) on the east coast of Great Abaco in the Bahama Islands.

Diagnosis: An *Epicrates* with a maximum of 37 scale rows, which can be distinguished from other Bahamian boas by the lower number of scale rows (*chrysogaster*, 40-44; *reliquus*, 46; *fosteri*, 50; and *strigilatus*, 51-53). Perhaps most closely related to *chrysogaster*, but differing from it in having a greater number of dorsal blotches, in lacking a prominent postocular stripe, and in having a relatively shorter head, as well as in the fewer scale rows and the differences in the formation of the prefrontals.

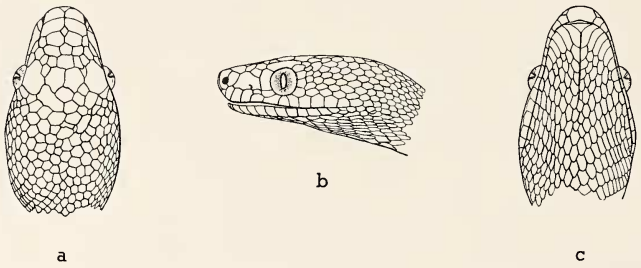

FIG. 1. *Epicrates exsul;* a, top of head; b, side of head; c, chin. Carnegie Museum, 21,048, type. About 1⅓ times natural size.

Description of type: Body slender, laterally compressed, head distinct from neck. Rostral about as deep as wide, tip visible from above; internasals and anterior nasals combined into a single pair of scales, which are as long as broad. Four transverse rows of scales between the internasals and frontals, as follows: 1) An anterior row of one pair, broadly in contact on median line, outer posterior corners truncate. 2) A row, four plates in width, each of the inner pair slightly more than twice the size of those of the outer pair (a small diamond-shaped plate is interpolated on the median line between the first and second transverse rows, and is thus in contact with each plate of the first row and the median pair of the second row). 3) A row of five plates, consisting of a median plate with two lateral plates on each side, the outermost on each side being in contact with the upper loreal, preocular, and supraocular. 4) A row of five plates, the median about twice the size of the others, the outermost on each side in contact with the supraocular. Frontal divided to form three plates by a median suture which extends backward about two-thirds of its length and then forks, sending a branch posterolaterally on each side, thus forming a posterior median portion of the frontal; each lateral frontal rather narrowly in contact with the supraocular, being separated anteriorly by a

roughly triangular-shaped interpolated plate and posteriorly by the intruding parietals. Parietals small, that on right divided into three small plates, that on left undivided. Left loreal region sub-rectangular, largely occupied by a single plate, from the upper posterior corner of which a small plate is cut off by a diagonal suture. Right loreal region similar, but lower anterior corner of large loreal lopped off as well by a second diagonal suture. Supralabials, 13 on left, 14 on right; first supralabial in contact with internasal; second touching internasal, posterior nasal, and loreal; fifth on left side of head divided horizontally; sixth, seventh, and eighth entering eye on left side, seventh, eighth, and ninth on right. A large preocular and a smaller subpreocular on each side. Four postoculars. Temporal scales small, not quite so large as those on side of body. Infralabials, 14 on each side. Scales smooth, in 37 rows at mid-body; 251 abdominals; 74 undivided subcaudals; anal entire; 30 abdominals occupying the same space as about 40 dorsals at midbody, the increase taking place in the fourth to the eighth row; anal spurs present.

Coloration: (Preserved specimen). Head, body, and tail pale brown above; cream colored beneath. A very faint, gray stripe from nostril through eye to angle of jaw; a slightly more visible, dusky, arrow-shaped marking on top of head, its point on second transverse row of prefrontals, its wings terminating on supraoculars; and a median, dark blotch from last frontal to rear of head. A double dorsal series of squarish or rounded, dark brown spots, frequently confluent across the back, extending from the neck to the tip of the tail, rather uniform-sized on body, smaller on tail; 58 of these spots on left side of body, 56 on right side. A single, incomplete series of a few small, widely separated, dark brown spots on the sides, becoming more frequent posteriorly, and occurring on the third to tenth scale rows on the body, and on the first to third rows on the anterior portion of the tail.

Measurements: Total length, 555 mm; tail, 111 mm.

Habitat: The following notes about habitat, and the additional reports of snakes, are based upon information provided by Dr. Twomey.

At Blackrock, Great Abaco, the original pine forest has been removed, but inland from Cocoplum Creek (about three nautical miles south of Blackrock) large stands of virgin pine forest still occur; here dense undergrowth makes penetration difficult, except along the trails which connect numerous small clearings. February 6 was chilly, with intermittent rain. Three snakes, which had apparently emerged from holes in the coral rocks to warm themselves in the sun, were seen along the margins of two

adjacent clearings. One (the type) was collected, but the other two, about the size of the specimen collected, escaped into crevices in the knife-edged, eroded rocks. The entire area was overrun with introduced wild pigs, for which the natives had set snare nets in the numerous runways. The negroes in the village of Blackrock told tales of seeing snakes ten feet long. One claimed to have abandoned his garden about six weeks earlier because he had seen a snake, as thick as his wrist, emerge from the bordering rock wall.

Additional reports of snakes: All of the northernmost islands in the Bahama group are located on the Little Bahama Bank, which is separated from the islands to the south by the Northeast Providence Channel and the Northwest Providence Channel, and from the east coast of Florida by the Straits of Florida. The only large islands on this bank are Great Abaco and Grand Bahama; these two islands are separated today, at their nearest points, by only about six miles of shoal water, scarcely more than six feet in depth. Both the large islands and numerous small cays are located along the outer margins of the bank, but the latter are most numerous along the northeast margin facing the Atlantic Ocean. Only a fraction of the 100-300 feet of emergence, generally believed to have occurred in the Bahamas during the cold intervals of the Pleistocene, would have been required to connect all the islands, islets, and rocks of the Little Bahama Bank into one large island.

Dr. Mellon's party was unable to land on Grand Bahama, except at Hawksbill Creek, an inlet on the southwest coast (approximately 26° 31′ 15″ N. lat., 78° 43′ W. long.), where a forest of pines sixty feet high was observed. A resident here told Dr. Twomey that he was too early to secure snakes, but that they did occur in the area, and that specimens were occasionally seen during the warmer months.

Stranger's Cay (approximately 27° 07′ N. lat., 78° 04′ W. long.) was also visited by the party. This small cay, which is only about two miles in greatest diameter, reaches an altitude of eighty feet above sea level; hence, it is too high to be inundated by hurricane waves. It was found to support dense vegetation. An old negro resident asserted that the island was infested with snakes as late as World War I. At that time the British owner introduced pigs, and within two years the snakes disappeared. According to this man, the snakes which he had seen reached three feet in length and occurred on rocky slopes around a large swamp. The same informant said that snakes now occurred (in the northern Bahamas) only on Great Abaco.

Munjack Cay, lying about four miles east of Blackrock, and Powel Cay, about six miles north northwest of Blackrock, were visited. Residents on each of these islets reported that no snakes occurred there, but that snakes were to be found on the "mainland," *i.e.*, Great Abaco.

Relationships: Previously, the northernmost known representative of *Epicrates* has been *striatus fosteri*, from North Bimini, at the northernmost portion of the Great Bahama Bank. The finding of *exsul* on Great Abaco is the first evidence of the occurrence of snakes on the Little Bahama Bank. It would be very nice, from a zoögeographic standpoint, if we were able to state categorically that *exsul*, the northernmost form of the genus, was most closely related to the next form to the southwest, *E. s. fosteri*, but in all honesty we cannot do so. The North Bimini form, *fosteri*, although very distinct in its coloration (black ground color), agrees in scutellation with *striatus strigilatus* of the central Bahamas; *strigilatus*, in turn, is a derivative, possibly through *reliquus* of Sheep Cay near Great Inagua, of typical *striatus* of Hispaniola.

In view of the inadequacy of the comparative material in the Carnegie Museum collection, the junior author took the type of *exsul* to Philadelphia for comparison with examples of *Epicrates* in the collection of the Academy of Natural Sciences. The privilege of making these comparisons in the company of Dr. E. R. Dunn and Mr. Roger Conant, both of whom have worked upon the family, was of inestimable value. Upon direct examination, neither these workers nor the junior author could find any close resemblance between the specimen of *exsul* and specimens of *striatus* or *strigilatus*. Its striking similarity, however, to the type of *chrysogaster* Cope (the form inhabiting Turks Island and the Caicos Group) was immediately apparent. We realize that it is unwise for authors inexperienced in Bahamian herpetology to make generalizations about distribution in these islands, but the fact that *exsul* appears similar to the southeasternmost Bahamian form (*chrysogaster*) and quite different from the two nearby forms (*fosteri* and *strigilatus*) leads us to the inescapable conclusion that the Bahamas have been invaded by two different stocks of *Epicrates* from Hispaniola, the only West Indian island which is known to harbor more than one representative of the genus. According to this hypothesis, *fosteri*, *strigulatus*, and *reliquus* are the Bahamian representatives of the *striatus* group. The forms of this group are characterized by moderate to large size, 46-63 dorsal scale rows, 271-302 abdominals, a pattern typically of rhombs, and a relatively small eye. *E. exsul* and *E. chrysogaster* are the Bahamian representatives of the *inornatus-fordii* complex. The mem-

bers of this complex (*gracilis* and *subflavus* not included) are differentiated by their small to moderate size, 33-43 dorsal scale rows (with the single exception of the unique specimen of *granti* which has 48), 243-269 abdominals, a pattern of spots rather than rhombs, and a relatively large eye which is separated from the edge of the upper lip by not more than one-half of its own diameter.

Subsequent collecting in the Bahamas will probably yield additional herpetological novelties, and, possibly, even other representatives of *Epicrates*. We are not very sanguine, however, that enough new discoveries will be made to permit unequivocal mapping of the distribution of the snakes in the Bahamas as it was on the fateful morning of October 12, 1492, when Columbus made landfall at Watlings Island. This event was not immediately prejudicial to the snake population, as it was to the "Indian" population, but it set in motion a long chain of destructive factors which culminated in the cotton-planting period of the eighteenth century. We can only regret that no "Cinquecento" herpetologist had opportunity to wander through the then extensive stands of tropical hardwoods and to observe the large boas which, we believe, may then have fattened on the richer avifauna in the cool glades on many of the islands.

It is interesting to note, in closing, that some scholars believe that Europeans discovered the Antilles and Brazil prior to 1492. Certainly Antillia and Brazil are the only geographic names on American maps which have a cartographic history dating to pre-Columbian times. Babcock (1920, Geogr. Rev., 9: 118) has even tentatively identified "I in Mar," of the Beccario Map of 1435, as Great Abaco and Great Bahama (considered as one island), or as sea islands in the vicinity. Even though the islands of the Little Bahama Bank *may* have been the first of the group to be discovered, there can be no question that they are still the least known faunistically. It is to be hoped that further herpetological collections may be made upon these islands, as soon as world conditions permit, before the remaining snakes of Great Abaco, and its neighbors, succumb to the ubiquitous pig.